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- ★ Festive Breads From Far-away Lands
- ★ Terrace Bank Farm – a success

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THE MACDONALD LASSIE

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OUR COVER PHOTO: Apple trees in bloom at St-Hilaire in Rouville County.



INSIDE

THE EDITOR'S COLUMN

Introduction to April Editorial

In the October 1965 Journal, the appointment was announced of G. Peter Henderson to the new position of Student Placement Officer, representing the National Employment Service on the Campus. In these few months, Mr. Henderson has earned the respect of both students and the staff for his untiring efforts to fit the right graduate to the right job. Now with Graduation '66 over, and a few minutes to reflect, we asked Mr. Henderson for his thoughts . . .

Straight A's aren't enough

The drums and bugles of the employers parade have again gone to rest. The paper contracts of employment offers have showered down on those attending the parade and for the most part have been picked up and dealt with. Most Macdonald graduates have secured a place in the procession and will march onward with the Economy of Canada to their individual goals.

As the Placement Officer, I have mixed feelings about the year '65 — '66. Most of them are good. The graduating class of some 80 in B.Sc. (Agr.) have searched well and nearly all discovered their next step, be it post graduate, employment in business and industry, Government, training as teachers or travel. Many young ladies of Household Science will finish internships and some have already accepted positions in related regular employment. Here, too, those who attained the marks and had the desire went on to graduate school.

In the Agriculture Diploma course all the graduates who were seeking employment found various opportunities in agriculture oriented business. Many returned to farms where they will use their talents in that part of Canada's most challenging industry, food production.

As ever, students in the Faculty of Education have been successful in securing positions as teachers in schools across the Province and our blessings go with them as they set out to guide and teach the future generation.

There are points to consider in the past recruiting season. In retrospect the attitude and approach of the student body at Macdonald was very mature. The salary ranges and positions offered left little to be desired; for example, in agriculture, 70 employers offered an average salary of better than \$6,000 per year — higher than ever before. Graduates will work from sales through production into research and development in many industries and Government, either directly or indirectly concerned with Agriculture. Most graduates will have an opportunity for further training at Company expense. As to location, few, if any, were not able to find employment fairly near their desired location. All seems well in employment '66.

At the same time a few negative points must be considered for balance. Employers do not come to campus only for bodies with straight A grades. Theirs is a profit making organization and regardless of how crass that seems, it is in principle that profit which gives us the time and money for our service to mankind and our freedom to offer our potential to the world in various non-profit organizations. Maturity is as important as high marks. So is imagination, responsibility and hard work. These qualities count for more than a degree and the degree is only valid when it includes them.

There will always be some graduates unemployed in May, whether it be for a lack of desire to institute self-discipline, or an iron-clad notion that no one has the right career opening for them — compromise being too humiliating.

To those graduates in future years, the Placement Office may fail to do many things, although we hope not too many. It is, however, obvious that some re-evaluation from the student body is necessary. Fifty per cent of your employment success is your own and 75% of that amount is ability and attitude above and beyond a degree. Pride untempered can be broken. Pride well tempered has a retentive quality unequalled.

Keep in mind the student of students who remarked to the personnel man, "What do you mean I'm antagonistic, Baldy?"

Good luck and God Speed those who leave in May. Let us hope that they take more from these hallowed walls than scholastic know-how. What we need is the know-how to produce effectively.

Guest editorial
by
G. Peter Henderson,
Student Placement Officer,
National Employment Service

Crop Recommendations for 1966

The following list of crop varieties and their description has been compiled from the 1965 Recommendations of the Quebec Seed Board and the changes known to be approved for 1966.

Representatives from the Faculty of Agriculture, Macdonald College along with their opposite numbers from Laval University, members of the various branches of the Provincial and Federal Departments of Agriculture and Research Stations, and of Industry, comprise the Quebec Seed Board. Each year, the advisory body reviews the research, results of field trial and experience, and seed stocks, and makes its recommendations for the coming year. Copies of the bulletin, "Recommendations of the Quebec Seed Board" are expected from the printer in mid-April, and will be available free of charge from county agronomes, colleges, research stations, or the Information Branch of the Quebec Department of Agriculture and Colonization.

Changes for 1966

New this year is the division of the province into seven zones. Recommendations are made specifically for these zones. Seeding rates of forage crops have been reduced in recognition of improving management practices. Three varieties of Orchard grass are on the list this year for the more climatically-favoured zones. The barley variety **Montcalm** has been withdrawn. Three varieties of flax, Raja, Marine, Norland are recommended. Acme Soybeans are off the list. **Merit** Ladino clover replaces **Pilgrim**. **Achenback** Brome grass is listed; it is a good variety and seed stocks are plentiful. Emphasis is added to the recommendation of varieties for specific purposes and areas, and for the use of certified seed.

Corn

Grain corn can be grown in areas with 2,500 heat units or over (Southwest Quebec and near the Ottawa River). The following varieties have performed well in Quebec trials and are listed in order of maturity. Select from the first part of the list for grain or for silage, from the last part for silage only.

Early — For Grain or Silage

Dekalb 29
Pride 4
Funk's G 2
Funk's G 2 A
United Hagie 108
Jacques 850 J
Pioneer 3891
Pride 5
United Hagie 7
Warwick 263

Med-Late — Silage Only

P.A.G. 26
United Hagie 10
Jacques 853 J
Dekalb 56
Pioneer 388
Kingscross K.C. 6
Funk's G 36
Algonquin
Warwick 401
Pride 20
P.A.G. 55

Funk's G 17 A
Kingscross K.E. 497
Warwick 605

Hay and Pasture

See the 1966 Bulletin for mixtures, recommended for specific purposes and zones. Proportions have been changed and rates reduced from 1965.

Alfalfa:

(continued on page 18)



Alfalfa variety trials at Macdonald College. Each row represents one variety; the front half was cut three times last season, the rear half twice. It clearly shows the difference in tolerance of varieties to winter-killing and management. From l. to r., the first several vigorous rows are selections of Vernal, followed by two rows, Alfa and DuPuits. The extremely vigorous row (centre) is a promising new variety not yet licensed. The rows, right, are the varieties under test.

Pest Control in Agriculture

From an article by Dr. Lewis Fischer in Vol. 1, No. 2, of "ECONOMIC PLANNING — Journal of Agriculture and Related Industries", Academic Publishing Co., P. O. Box 42, Snowdon Station, Montreal 28.

Pests — insects, weeds, diseases, nematodes — cost Canadians an estimated \$1.5 billion annually. The bill for control chemicals alone, in 1964, was \$36,520,000. Researchers are pressing hard in their search for ways to reduce these losses and to lessen the hazards associated with the use of chemicals. In this article, Dr. Lewis Fischer reviews the history of pest control and outlines the alternatives.

Losses from pests vary from country to country, from continent to continent, but some loss is almost universal wherever agriculture is practiced. More than 10,000 species of insects are considered to be of economic importance in North America. Other pests capable of causing serious economic loss include 600 seed species, 1,500 plant diseases and 1,500 species of nematodes. Pests do in some areas of the world make it impossible to grow certain crops.

The great majority of temperate zone crops are annual plants grown in pure stands in closed areas. In contrast, perennials are predominant in the mixed flora of nature. Thus, any kind of cultivation must be regarded as an inter-

ference disturbing the "balance of nature." The situation is similar with domestic animals. The logical consequence must be that pest control may be a necessity in order to maintain the population of pest species at non serious levels.

Aside from the limited use of such chemicals as Paris green, copper sulphate and the like, pest control prior to World War I consisted mainly of modification in husbandry. Shifting cultivation from one variety to another, intelligent rotation including fallow, timing of planting and harvest etc., were the main control measures practiced. These measures have continued and breeding of resistant strains has been added to the repertoire.

The next stage of development introduced therapy into pest control. Synthetic organic insecticides were employed as "cures" rather than as therapeutics. A most vigorous industry evolved a great number of chemicals which proved at least temporarily successful in minimizing pest damage. The immediate rewards from these controls were spectacular. Concurrently, the methods of application were improved substantially.

During and after World War II, organic pesticides of high potency —

DDT, organo phosphates (parathion) and others — appeared on the market. These products are exceedingly effective compounds for the protection of plants and animals. There is a general consensus as to their usefulness and necessity in modern agriculture but the safe use of these highly concentrated, poisonous products call for new knowledge and technology to minimize the inherent risks. Legislative programmes have been established to safeguard operators, consumers and wildlife from the known hazards but there is yet a need for vastly expanded research to discover the still unknown hazards. One aspect of these regulations is the compulsory registration of pesticides offered for sale.

Chemical pesticides continue to dominate pest control in agriculture with a strong shift from chemicals with long residual effects to those with only transient effects and hence hazards. New ways of protection are also being explored. New techniques are essential because some insects have developed resistance to certain chemicals, and rendered them ineffective. Persistent hazardous chemicals have been shown to

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Pest control is a major expense in apple growing. This one orchard, seventy acres, in Quebec's Chateauguay County spent \$3200 for chemicals in one year — 13¢ for each bushel of apples picked.

Canadian Assistance to Developing Countries

After the close of the College year, in May, the Macdonald campus is not the quiet place one would expect. Summer School, short courses and special events keep the residences and lecture rooms in constant use. One group which passes quietly through, with no outward show of its real importance, are teachers and their families on their way to overseas appointments. Stopping for a four-day briefing, it is their last contact with Canadian soil before boarding their aircraft at Dorval.

Pictured here are some of the Canadian High School teachers who left Montreal last summer on the first leg of a journey which took them to their new teaching posts in distant Malaysia. They were only part of 162 high school teachers who attended a four-day conference at Macdonald College prior to leaving for their new posts.



Teacher Programme

Before 1960, only a small number of teachers were assigned abroad under the Canadian Government's aid programmes. That year, however, marked the beginning of the current comprehensive plan through which teachers and teacher trainers at the secondary level, as well as teacher trainers at the primary level, are provided to developing countries. The increasing number of requests for teachers received from the governments of these countries is a reflection of the greater priority they give to the expansion and improvement of their educational facilities in the light of the critical importance to economic growth of adequate supplies of trained manpower. In 1965-66, 450

teachers accepted assignments, almost double the previous year.

The ultimate objective of educational assistance, including the Teacher Programme, is to help the developing countries strengthen their economies to the point where they will be able to meet their requirements from their own resources. Consequently, priority is given to meeting requests for highly-qualified teachers and teacher trainers with considerable experience for key positions where they can make the maximum contribution to the local educational system. Teachers of academic subjects must have a number of years of professional experience, university degrees and teaching certificates; vocational teachers must have specialist certificates from their respective provinces. Also, Canada has made every effort to

meet requests for teachers and teacher trainers of subjects that have a close bearing on economic and social development, such as mathematics, science, languages, and technical and commercial subjects.

Operations follow through a number of stages, beginning with the receipt of requests from the developing countries and the recruiting of candidates, followed by the nomination, briefing, and fielding of those selected. The governments of the developing countries are asked to submit their requests in early November for Canadian teachers for the subsequent academic year. A roster of qualified candidates is maintained by the External Aid office on the basis of applications submitted throughout the year.

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PEST CONTROL

(continued from page 6)

slowly but accumulatively contaminate the surface of the earth and pose an immediate threat to man and wildlife where they have been carelessly used. Among the important alternatives to chemical control which are currently investigated are:

BIOLOGICAL CONTROL. This is one of the oldest methods developed to reduce population of injurious pest species. The U.S. Department of Agriculture imported the vedalis beetle in 1888 to combat the cottony-cushion scale which then threatened the citrus industry in California; and saved the industry. At the present there is a renewed interest in biological control methods. The USDA has given high priority to the parasite-predator importation programme as well as to ways of more effectively utilizing native parasites and predators. Specific bacteria have been employed successfully in controlling some insects. Biological control has been successfully used against some of the most pernicious and otherwise unsolvable weed and insect pests but has failed as a substitute for chemical control over the whole pest spectrum.

LURES AND REPELLENTS. Lures may be and repellents are themselves chemical but their use in narrowly delimited areas, and the selection of those with negligible toxicity to other life removes them from what is usually termed "chemical control." Lures (whether chemical, light or sound) must be accompanied by some type of mechanical trap or killing device poison bait. The latter has been most effective but also most hazardous and is limited by pest habits. Recent investigations of lures based on sex attractants and combined with chemicals for male sterilization are highly promising but not yet developed for practical use.

STERILIZATION. The recent use of mass release of laboratory reared and radiation sterilized male insects to eliminate the screw worm fly from Florida indicates the kind of imaginative thinking that may in time make pest control safe and reliable.

INTEGRATED CONTROL. Many well informed biologists are convinced that only intensive studies of pest biology and ecology and careful selection of cultural, biological, mechanical and chemical controls and their integrated use can solve the pest problems. The ideal solution would be a "prescription pest control" as we have "prescription medicine" with well informed licensed specialists prescribing procedure, materials and methods for specific problems. California is making an approach to this procedure even today. If success-

ful it will reduce the degree of uncertainty in pest losses as we know them today and hence make planned agriculture a surer success. Integrated control is based on knowledge, knowledge with predictive value and hence it is a natural candidate for integration into overall production planning.

* Part of a paper by Dr. Fischer, "PEST CONTROL — AN ECONOMIC APPROACH", first published in Economic Planning, December 1965, Dr. Lewis A. Fischer is Research Associate in Agricultural Economics at McGill University's Macdonald College. He received his formal education in Germany and received a Ph.D. degree from the University of Halle/Saale, Germany.

ASSISTANCE

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Firm offers of employment are made to teachers after they have been carefully screened and after they and their families have passed a medical examination and their nominations have been accepted by the host governments.

Briefing consists of reading and correspondence, special courses and a final briefing conference. Teachers are provided with information gained in the operation of previous years' programmes, reports received from Canadian diplomatic missions abroad, and excerpts from the reports of Canadian teachers already on assignment. The External Aid office conducts a series of seminars on the special problems of teaching English as a second language in a developing country. These are chaired by External Aid teachers who have had experience in teaching the subject overseas. Also in July, teacher trainers attend a special refresher course given by Macdonald College of McGill University on the philosophy, techniques and methods of teaching.

The culmination of the briefing takes the form of a general conference held for four days at Macdonald College at the end of August, just before the teachers and their families leave for their assignments. Part of this conference is devoted to lectures and films, but the major emphasis is placed on seminars on various countries, chaired by teachers who have served in the areas concerned. These seminars offer the best opportunity for teachers and their wives to consider in perspective their particular assignments and living conditions abroad.

Contracts are usually for an initial period of two years, but may be extended up to five years. While serving overseas, a teacher receives a fee based on his Canadian earnings and an allow-

ance designed to compensate for the additional costs incurred as a result of living abroad. The External Aid office also pays the costs of international transportation for the teacher and his dependents as well as the costs of packing and shipping his personal effects and part of the storage costs for household items left in Canada. The teacher retains his formal connection with his Canadian employer, thus protecting his various entitlements such as superannuation and seniority.

In a very real sense, educational assistance programmes are co-operative efforts between the donor and recipient. In particular, local governments supply rent-free or at a nominal rent partly-furnished accommodation, local transportation while on official duty, exemption from local income taxation, and duty-free import privileges for personal effects.

Canada has agreed to provide university personnel under a scheme that may be regarded in the field of higher education as a counterpart to the Teacher Programme. The growth in the number of university staff serving on overseas assignments has increased each year, to the present number of 110.

Some professors have been sent abroad on individual contracts or on the basis of secondment from their universities, and others have been provided by their universities as members of a team under general contractual arrangements between the universities and the External Aid office. Canadians have undertaken such individual assignments as a Professor of Metallurgy at Banaras University in India; Professor of Organic Chemistry, University of Guyana, British Guiana; Professor of Nutrition at the University of Ghana; professor of Electronics, University of Karachi, Pakistan; and many others. The first team project was undertaken in 1961 by the University of British Columbia, which agreed to help the Universities of Malaya and Singapore by establishing courses in accounting and business administration over a five-year period. Other similar projects have been entered into — for example, with the University of Toronto in establishing a Regional Engineering College at Mangalore, India, and with the University of Manitoba in establishing Faculties of Engineering and Agriculture at the University of the North East in Thailand. A major project of this type in French-speaking Africa involves the establishment of the National University of Rwanda at Butare; Canada is providing 23 members to the staff. Most of the Canadian professors assigned overseas have been pioneering the establishment of new faculties and new courses.

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Festive Breads From Far-away Lands

By Marilyn Findlay

Bread is Life. No other food is used so widely. No other food has such meaning or universal appeal.

Here in Canada, bread as a staple food is taken for granted. It is easily purchased and is available in many sizes and shapes to suit the needs of the busy homemaker. Yet what could be more delightful than to sniff the yeasty fragrance of home-made bread rising in a warm kitchen? It stirs up long-forgotten memories of childhood, when the aroma of Grandmother's baking filled the house.

In this modern and cosmopolitan age of greater travel and communication, old-time recipes, although still favourites, tend to be replaced by ideas from other lands. International flavours have crept into our cuisine. From the Arctic Circle to the Black Sea, dishes of peasant and king are being found on the tables of North Americans. Even those of us who rarely leave our own homes may share in the culture of other people through the medium of good food. Pastas from Italy, wines from France, cheese from Switzerland, all are familiar to us.

Perhaps less familiar to us, but more distinctive to each country than any other food, are its breads. From hearty breads to be eaten at simple meals, to the elaborate creations for festive holidays and celebrations, each country offers its own. With modification to suit Canadian flour, ingredients and utensils, many of these can be prepared simply and quickly in our homes.

The following recipes are for breads which are easy to prepare from a basic recipe for sweet dough. Their interesting shapes and flavours, reminiscent of festivities in far-away lands are certain to appeal.

Basic sweet dough

4 - 4½ cups sifted all-purpose flour
2 pkgs. dry granular yeast
¼ cup lukewarm water
½ cup sugar
¾ cup milk, scalded
1 tsp. salt
2 eggs or 4 yolks (beaten)
1 tsp. grated lemon rind
⅓ cup butter or margarine (softened)
½ tsp. mace or ground cardamom



Marilyn Findlay, School of Household Science, Macdonald College

1. Sift flour once, then measure.
2. Stir 1 tbsp. of the sugar into the lukewarm water. Add the dry yeast and allow to soften for 10 minutes.
3. Combine milk with salt and remaining sugar and scald. Cool to lukewarm in a large bowl.
4. Stir in yeast mixture and eggs.
5. Add half the flour and beat hard with wooden spoon or electric beater.
6. Add very soft shortening, rind and spice.
7. Gradually stir in remaining flour and mix well.
8. Cover dough and allow to stand 10 minutes.
9. Turn out on lightly floured board. Knead thoroughly for 5 mins. The dough is soft, but delicate. The addition of extra flour makes the product too bread-like for flaky rolls and coffee cakes.
10. Place dough in a lightly greased bowl, turning once to bring greased side up.
11. Cover with a damp cloth and allow to rise in a warm place until doubled in bulk — 1½ - 2 hours.

12. Punch down, turn over, cover and again allow to rise until doubled — 30 mins.

One rising is sufficient, but two risings gives a superior product.

13. Punch down and turn out onto a lightly floured board. Cover with bowl, for 10 minutes.
14. Shape into rolls and place in greased pans. Allow to double again in size. Bake at 425°F. from 12 to 20 minutes.

or

Finish as one of the following :

Kaese Kuchen (Cheese Cake) — An old Dutch Coffee Cake.

Use ½ recipe of basic sweet dough. After second rising, pat into a greased 9" round pan, forming a ridge around the edge. Fill the hollow with the following mixture:

½ cup sugar
1 tbsp. flour
1 cup dry or drained cottage cheese
1 cup cut-up drained pineapple or prunes

¼ cup chopped nuts

Sprinkle over top of filling :

2 tbsp. sugar
1 tsp. cinnamon

Cover and let rise until doubled (25 — 30 mins.). Bake, covered for the first 10 minutes. After baking, sprinkle crust with extra sugar-cinnamon mixture. Bake at 400°F for 25 — 30 mins. Serve warm.

Stollen — Old German Holiday Bread

Use full recipe of basic sweet dough. After second rising, turn dough out onto lightly floured board and flatten into a circle.

Distribute evenly over dough :

½ cup chopped blanched almonds
¼ cup each — chopped citron, candied cherries
1 cup seeded raisins
1 tbsp. grated lemon rind.

Knead into dough.

Pat out dough into an oval about 8" x 12". Spread with soft butter. Fold lengthwise into two. Form into a crescent. Press folded edge firmly so it will not spring open. Place on lightly greased baking sheet. Brush top with melted butter. Allow to rise until double. (35 — 45 minutes).

Bake at 375°F for 30 — 35 mins.
Frost while warm with confectioner's frosting. Decorate with toasted almonds, pieces of citron and cherries.

Kulich — Traditional mosque-like shapes — characteristic of old Russia's holiday breads.

Use ½ recipe of basic sweet dough. After second rising turn dough out onto lightly floured board and flatten into a circle about ½" thick.

Distribute over dough and knead in thoroughly :

1/4 cup raisins
1/4 cup chopped blanched almonds
1/2 tsp. vanilla
1/8 tsp. saffron (optional)

Divide dough into two equal portions. Round up and pack into two well-greased 1-lb. coffee tins (5½" tall). Pat top of dough even. The cans should each be only ½ full. Cover and allow to rise until doubled (30 — 40 mins.). Place cans on baking sheet and bake until bread is well browned. Remove from cans and cool slightly, ice with confectioner's frosting and decorate with tiny coloured decorating candies. The icing should run down the sides of the bread.

Bake at 375°F. 30 — 40 minutes.

Confectioners Frosting

1 cup sifted confectioners' sugar
1 to 2 tbsp. milk (the amount varies with desired thickness)
1/2 tsp. vanilla, almond extract or lemon juice.

Blend all together and spread or drizzle over bread while still warm.

Spices & Herbs Used

Cardamon (Herb) — A seed with a delicate flavour of coffee. It is available whole and ground. Its chief uses are in pickles, breads, sausages and as a flavouring in medicines.

Cinnamon or Cassia Cinnamon — (Spice) The bark of a tree which imparts an aromatic warmth and sweetness to foods. It is available ground and in sticks. Its chief uses are in baking and in beverages.

Mace — (Spice) The outer coating of the nutmeg kernel. It is available ground and in thin blades. It has a gentle aroma of nutmeg. Its chief uses are in pickling and baking.

Saffron — (Herb-Spice) This ancient spice is the most expensive of all, the wholesale price being around \$40.00 per pound. It is the stigma of a crocus-like flower — 75,000 blossoms being required for one pound. The flavour is very distinctive and unlike any other herb or spice. It imparts a rich golden colour to foods and is most frequently used in baked goods and in Spanish cookery where saffron rice is very popular. It is available in small packages which sell for around twenty-five cents.

YOU THINK WE H

In North America, birds take an annual toll of cereal crops. Black-birds, especially, are causing real concern in the corn crop, and extensive research is underway for methods of control. But our bird problems are nothing compared with those of Africa where the Quelea Bird can literally be the cause of starvation.

Eighteen African countries have appealed to the Food and Agricultural Organization of the United Nations to help develop a program. Here is part of the F.A.O. story.

Every countermeasure so far undertaken against the Quelea Bird has had little more effect than that of its natural predators, the hawk and the stork, whose influence is in fact negligible, so vast are this bird's numbers.

Looking somewhat like a sparrow,

but with a red beak, the Quelea Bird has the double distinction of being one of the most numerous birds in the world, and the most destructive. Single kills of up to 3,000,000 have been made in a roost of a couple of acres without apparently lessening the overall strength of the species. In Senegal annual kills of

F.A.O. photo



Concentration of Quelea Bird nests in one tree.

E BIRD PROBLEMS!

30 million have been claimed, but still 200 million remain. Far from declining, the pest may have increased with the increased acreage of grain fields and in addition to moving from one feeding ground to another, as it must do under natural conditions, it shows signs of taking up a permanent habitat where the living is easiest — i.e., in the new African cornlands.

The Quelea Bird's numbers are not due to an ability to propagate quickly. In fact, by comparison with many other birds, including those of the temperate zone, it is rather slow, producing only two or three fledglings a year. On the other hand, it has practically no effective natural enemies and is immune, apparently, to most common avian diseases. Over the whole strip of dry savannahs lying south of the Sahara

and stretching across some 20 countries from west to east of Africa and down into South Africa — about 20 per cent of the sub-continent — this little bird holds the power of life and death over innumerable small farmers. Local famines solely caused by its rapacity have occurred in East Africa. There and elsewhere the approaching Quelea flocks, looming like black clouds as they wing toward the fields, have been mistaken at first sight for locust swarms, and the effect is much the same. Ninety million birds, surging from a 2,000-acre nesting site in Senegal, which was subsequently destroyed, were estimated to be eating 9,000 tons of food a month. Nigeria has put its losses in one year in the Bonu Province at more than \$3,000,000.

A swarm of many thousands may thus gather in minutes, a fascinating

sight to anyone seeing it for the first time, but a terrifying one for the farmer. As they alight all the birds turn in the same direction, hopping forward and "leap-frogging" in an orderly fluttering progress, one over another until the whole swarm resembles a vast rolling wave, systematically stripping the fields. A third to a half of the harvest may be lost in a few hours in this way, either directly into the Quelea's crop or by the scattering of the seed on the ground as he pecks among the corn-heads.

The farmer's traditional way of coping with invaders is to try to scare them off, which in practice means protecting his own fields at the expense of someone else's. A child on a tall look-out platform keeps vigil and at the first sight of a flock starts pulling at strings attached to rattles and cans. Or the village headman may call out everyone to march, drum-beating, hand-clapping shouting through the fields. A large swarm, however, is hard to scare for long, and more modern methods have included flame-throwing in the nesting sites, the mass explosion of drums of petrol and diesel fuel and air-spraying by such toxic chemicals as parathion. All are highly expensive methods, with their own dangers for man as well as for birds, and they seem to have made little more than local and limited dents in the problem.

Six of the affected countries — Nigeria, Sudan, Kenya, Tanzania, Zambia and Rhodesia — have their own Quelea control units, working under their respective Ministries of Agriculture. Six others — Mauritania, Senegal, Mali, Niger, Chad and Cameroon — have in the past four years combined to spend some \$500,000 a year, resulting in the fantastic total kill of more than a billion birds — yet the most that can be said is that they have brought control within sight as a possibility.

There is in fact as yet no general answer to the problem of the Quelea Bird, and it is unlikely that one will be found until a great deal more research has been done.

F.A.O. photo



Destruction of Quelea Bird nesting site with flame throwers.

THE FAMILY FARM

PUBLISHED IN THE INTERESTS OF THE FARMERS OF THE PROVINCE

BY THE

QUEBEC DEPARTMENT OF AGRICULTURE AND COLONIZATION



Compiled by T. Pickup of the Information and Research Service,

Quebec Department of Agriculture and Colonization.

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Terrace Bank Farm —
A success story

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The Greatest Loss
100 Abattoirs Close Down

PHOTOGRAPHS BY
OMER BEAUDOIN



Strawberry picking time on the Island of Orleans.

Looking Ahead to . . . STRAWBERRIES

PROMISING WEEDKILLER FOR STRAWBERRIES

When properly applied, Simazine shows great promise as an effective herbicide for commercial use in eastern strawberry plantings. This was determined by detailed studies on timing, rates of application, and herbicide formulation, at the CDA Research Station, Fredericton, N.B.

Simazine controlled weeds effectively after treatments of one pound or more of active ingredient per acre, but the herbicide must be applied cautiously, to avoid crop injury and reduced yields. Best results were obtained by not applying simazine until six weeks or so after planting, and by splitting treatments into two applications, each at the rate of 0.5 pound of active ingredient.

The two sprays or granular applications were made six weeks after planting. Single applications of the granular form showed considerable promise for safe use at rates as high as 1.5 pounds of active ingredient per acre.

— W. B. Collins, Fredericton, N.B.
(From "Research for Farmers", Winter 1966)

STOPPING ROT IN STRAWBERRIES

A new fungicide called dichlofuanid has performed especially well in recent field trials against the grey mould fungus, *Botrytis cinerea*. This fungus in warm wet weather is capable of ruining up to 90 per cent of strawberry crops.

Developed by Farbenfabrik Bayer of Leverkusen, West Germany, and originally coded Bayer 47531, this fluoro-
(continued on page 16)

This page supplied in the interests of the Family Farm by the Quebec Department of Agriculture and Colonization.

HONEY 1965

► Swarm of bees following queen into hive on farm of J. Bergeron, St-Prime, Roberval.

The Quebec Bureau of Statistics, Agriculture Section, issues a final estimate of the honey crop and its value in the Province of Quebec for 1965.

The figures on the number of bee-keepers and hives are furnished by the Horticulture Section of the Quebec Department of Agriculture. The estimates of the production and value of honey are based on reports received from 959 bee-keepers and cover 52 per cent of the total number of hives in the Province of Quebec.



SUMMARY

There were 1800 bee-keepers in the Province of Quebec in 1965 as compared with 1880 in 1964. Estimated at 44,300 for the year under review as against 48,900 in 1964, the number of hives shows a slight decrease.

The honey crop for 1965 is estimated at 2,392,000 pounds against 2,592,000 pounds in 1964. Average production per hive was 54 pounds as compared with 53 pounds the preceding year.

Total production for 1965 is divided

as follows: white honey, 69 per cent; dark honey, 27 per cent; comb honey, 4 per cent.

The value of the 1965 honey crop is \$646,000 while that of 1964 was \$648,000. The average weighted price paid to producers per pound of honey (excluding containers) was 27 cents, as compared with 25 cents in 1964. The aggregate value of honey and beeswax, estimated at \$662,000 in 1965, shows a decrease of 0.5 per cent over 1964 when it totalled \$665,000.

MAPLE SYRUP. The sap tapped from the maple tree as it rises in the spring. Maple syrup is available in Britain imported both from Canada and from the United States.

I have found Canadian pure maple syrup more reliable of recent years than the American variety.

Some maple sap is made into sugar

and some maple syrup is prepared from maple sugar and cane or corn sugar syrups. It is worth while checking that you are buying "pure" maple syrup.

The syrup is delicious on dropped scones, American pancakes, plain hot waffles or poured over ice cream. I personally like it on porridge.

Superior Quality Of Canadian Maple Syrup

The following unsolicited testimonial to the quality of Canadian maple syrup appeared in the February issue of a British publication, "Homes and Gardens", as part of an article entitled "ABC of Food, Drink, and Cookery" by Yvonne Trethewey:



► Lifting down a sap pail in Mr. O. Naper's maple sugar bush at St. Sylvestre, Lotbiniere.

Minimum Chemical Dosage for Selective Control of Orchard Insects

K. H. Sanford

FOR 15 years now, apple growers in the Annapolis Valley of Nova Scotia have successfully used an integrated spray program to control apple pests. This program is based on the premise that most pest species are normally kept below economic numbers by predators, parasites and pathogens and, if pest outbreaks occur, it is because the natural balance has been altered in some way. Fortunately for Nova Scotia growers, sufficient beneficial species are usually present, if not suppressed in some way, to provide natural control. This makes it worthwhile to protect these natural enemies. The integrated program is simply one of combining both biological agents and chemical sprays in a single program. Pest species must be kept at or below economic tolerance levels, otherwise profitable production is not possible. There is always a danger of pest outbreaks occurring in cases where the beneficial insects have been removed either as a result of using chemicals that are toxic to them or where insufficient food is available to maintain them. Because of these conditions, chemicals that are applied to control outbreaks must have selective qualities so that pest numbers are reduced to economic tolerance levels without drastically affecting the beneficial species.

In our studies at the CDA Research Station, Kentville, N.S., we have found several ways of achieving selectiveness and have used these to help provide controls for all pests that may occasionally cause injury in Annapolis Valley orchards.

First, we search for chemicals that, when used at the regular dosage, have little effect on most predators and parasites while exercising control of the pest. This necessitates evaluation of the chemicals against many species of natural enemies and also against the pests involved before a particular chemical is recommended. Examples of our recommended control chemicals that exhibit this type of selectiveness include lead arsenate for apple maggot control, ryania for codling moth control, and nicotine sulphate for eye-spotted bud moth and aphid control.

Secondly, we rely on the timing of applications of some sprays in order to protect natural enemies. Often wide spectrum chemicals with short residual properties can be utilized if they are applied early in the season so that the residue is dissipated before many predator species hatch. For instance, many of the phosphate group of chemicals,

applied during the delayed dormant stage, effectively control the apple sucker, case bearers, eye-spotted bud moth and aphids with no effect on unhatched predacious species. Some predacious species of thrips and mites that overwinter in an active stage may be destroyed by spring applications of this type. The unhatched species, if allowed to survive, will often exercise sufficient control to maintain a natural balance.

A third method designed to provide protection of natural enemies, as well as provide adequate control of specific pests, has been the practice of reducing the dosage of the control chemical to a minimum. This has been useful for control of several pests because some of the predacious species are less susceptible than the pest to the chemical. This may not protect all predacious species but sufficient numbers in the predator complex may survive to prevent a violent change in the natural balance between pests and predators. The use of low dosages was first considered in the control of a complex of lepidopterous pests occurring at the same time as, and including, the fall cankerworm, the winter moth and the green fruit worm.

A good example of the use of low dosages for selective control is the use of DDT or Guthion for winter moth. This pest, which is new to North America, has recently become established in Nova Scotia. It lacks natural enemies and requires chemical control in many orchards. Lead arsenate was first used as a control but subsequent testing has shown this material to be non-effective when the larvae are very young, and to be slow acting as the larvae near maturity. This slowness of action often results in fruit injury incurred during the calyx stage, the scars of which expand with the growth of the apple and are very prominent at harvest. Best control is obtained when application is made near bloom but because of pollinating insects, applications must be avoided during the bloom period. This necessitates a quick-acting, knockdown-type of control chemical; DDT or Guthion at the low dosage of 2-4 oz. per 100 gallons of water acts in this way.

The successful use of low dosages for winter moth control led to investigations into the possible use of low dosages of widely toxic chemicals to provide selective control for other pests.

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This page supplied in the interests of the Family Farm by the Quebec Department of Agriculture and Colonization.

The author is an entomologist at the CDA Research Station, Kentville, N.S.

TERRACE BANK

This page supplied in the interests of the Family Farm by the Quebec Department of Agriculture and Colonization.

FARM — a success story

In the Provincial Agricultural Merit Contest of 1965, fourth place went to Terrace Bank Farm at Howick in the county of Châteauguay. The owner, Mr. Robert E. Ness, belongs to a family that has left its mark on agriculture in Quebec. His great-grandfather, Robert Ness was president of the Quebec Agricultural Council and his grandfather, R. R. Ness, actively helped to introduce Ayrshire cattle and Clydesdale horses into Canada, making no fewer than 44 trips overseas — mostly to Scotland — to import stock. Mr R. R. Ness was the owner of Burnside Farm and won the Gold Medal in the Agricultural Merit Contest of 1906 at the age of 34, thereby setting a record for youthfulness which has not been surpassed by any winner since. In 1913, he gained first place in the only interprovincial farming contest bringing into competition the best farms of Quebec and Ontario. For many years at fairs and shows, the same theme was heard, relentlessly repeated, after the names of prize-winning Ayrshires: "R. R. Ness and Sons, Howick". Hundreds of competitors also became acquainted with Mr. R. R. Ness as a judge in the Agricultural Merit Contests. Mr. John Earle Ness, the father of the present competitors, built up a solid reputation as a breeder and judge of cattle. In 1935, at the age of 38, he too won the gold medal while operating Terrace Bank Farm which he handed over to his son Robert in 1958.

Mr. Robert E. Ness is 37 years of age and he seems worthy of his forbears. His herd of Ayrshires is among the best bred in North America. It now comprises 88 head, including 46 cows, 40 heifers and 2 bulls of outstanding pedigree. Nineteen of the milk cows are classified as Excellent and 21 Very Good. He is particularly proud of ten cows whose total production exceeds one million pounds. The milking records of these cows are shown in the following table

Name	Born	Number of lactations	BCA milk	BCA fat	Total milk production	Percent fat
Terrace Bank	Rosabelle	1951	9	140	157	117,511
"	Lillian	1952	10	121	128	110,655
"	Mistress	1949	11	129	134	127,329
"	Full Bloom	1956	6	139	138	72,935
"	Miss Pearl	1956	6	135	140	78,376
"	Pearl Dale	1955	7	124	122	73,865
"	Flossie	1950	9	150	156	129,852
"	Floss Tide	1954	7	122	117	85,808
"	Fairy	1953	8	111	112	87,840
"	Frosty	1952	10	143	145	120,584
						4.57
						4.33
						4.24
						4.04
						4.24
						4.05
						4.26
						3.92
						4.14
						4.14

The productivity of the herd reflects an exacting choice of sires and carefully balanced feeding. The average milk yield of the cows in the herd was 9,987 pounds in 1962, 10,400 pounds in 1963, and 10,621 pounds in 1964, with a fat content averaging about 4.16 per cent.

Mr. Robert Ness of Terrace Bank Farm at Howick in Châteauguay County. ▼



Terrace Bank Farm covers 285 acres, of which 260 are under cultivation. In addition to the home farm, pleasantly situated on a slight elevation on one side of the English river, there is another farm of 100 acres on the other side of the river, some distance away. The soil of both farms is excellent clay-loam, except for a few acres of lighter

Last season's crops include 36 acres of Rodney oats, 22 acres of Pride and Pioneer corn, and 155 acres of hay: there are also 47 acres of pasture in a special rotation. On the 27th of July, when the judges visited the farm, the tile-drained field of corn looked vigorous and uniform and was about six feet high. Mr. Ness expected to have to cut land.



▲ "The lowing herd winds slowly o'er the lea" beside the English River on the farm of Mr. Ness.

part of it before it reached optimum maturity because of a road-building project which will broaden the road allowance to 40 feet in front of the house. The alfalfa aftermath appeared satisfactory, but the oats seemed already to be suffering from drought. The cattle on pasture were receiving a daily ration of Sudan greenfeed. Sudan is a cross between sorghum and Sudan grass that has been introduced recently into the region south of Montreal.

The buildings are suitable for the requirements of the farm. Especially noteworthy are the very up-to-date milkhouse with its bulk cooling tank, two silos into which the corn is put, and a 20' x 25' manure shed.

The machinery represents an investment of about twelve thousand dollars.

The house is a solid, two-storey, thirteen-room, brick

MINIMUM DOSAGE

(continued from page 14)

This has shown promise and has resulted in several recommendations that are practiced by many Nova Scotia orchardists, the main ones being: malathion 25 W.P. at 2-4 ounces per 100 gallons of water for *Atractotomus mali* (Meyer); DDT 50 W.P. at 2-4 ounces or Guthion 25 W.P. at 2 ounces per 100 gallons for winter moth, green fruit worm and cankerworm; Guthion 25 W.P. or malathion 25 W.P. at 2 ounces, or Dimethoate 43.6 E.C. at 1/8 pint per 100 gallons for apple sucker and Guthion 25 W.P. at 2-4 ounces per 100 gallons for brown mite.

These low dosage controls are directed against pests that become vulnerable before bloom when most of the beneficial species are not present. Often one application of chemical is useful in controlling more than one species of pest. For example, Guthion applied ten days before bloom will control apple suckers, brown mite and some caterpillar larvae; malathion applied near bloom will control *A. mali* and apple sucker nymphs.

We realize that we have not found ideal chemicals for use against each pest. i.e. one that is innocuous to predators and toxic to the pest. But, by evaluating available materials against predator species and balancing the maximum dosage they will tolerate against the minimum dosage required to economically control the pest, chemicals have been selected for specific pests.

It has been suggested that the low dosages would speed up the development of resistance. Because this procedure acts as an aid to the control of pests by natural means it is believed the development of resistance would be slowed rather than speeded up. Low dosages have been applied as controls of some pests for about ten years and so far no evidence of resistance has become noticeable.

(From "Research for Farmers", Winter, 1965)

STRAWBERRIES

(continued from page 12)

dichloromethylthio compound reduced *Botrytis* rot more effectively than established fungicides when tested in Germany, Denmark, Belgium and Holland. Promising results are now reported from field trials in Britain.

At the East Malling Research Station, Maidstone, Kent, dichlofuanid was rated clearly superior to four other fungicides (thiram, captan, DDCB and dichloran) in reducing the amount of *Botrytis* infection on two varieties of strawberry. The plants were sprayed first when 5 per cent of the flowers were open and again at full bloom. Biological studies have indicated that mouldiness in the fruit develops mainly from infection of the flowers.

These results suggest that even in seasons when *Botrytis* infection is heavy, good commercial control of fruit rot may be achieved by using only two fungicidal sprays provided they are applied thoroughly. The optimum quantity of dichlofuanid needed is now being investigated at East Malling.

Stopping the rot is only part of the *Botrytis* control problem. Besides being biologically effective, the fungicide must neither taint the fruit nor leave undesirable chemical residues. No taint was detected by the Fruit and Vegetable Canning and Quick Freezing Research Association, Chipping Camden, in canned strawberries taken from crops treated four times with dichlofuanid.

(From "New Scientist")

THE GREATEST LOSS

The following letter appeared recently in the entertainments section of the Montreal Star:

"Sir, —

Entertainments Letters to the Editor Feb. 19 contained a letter from S. Vistarchi complaining about bad manners at local concerts and suggests that "Such persons should not go to opera but could very well fit on a farm!"

For many years I took my piano pupils in groups to hear great musicians

construction, built about the turn of the century.

Mrs. Ness, who holds a teaching certificate, devotes to handicrafts and social activities whatever time she can spare from bringing up a family of four children whose ages range from ten months to nine years. The eldest, Robert Lawrence ("Larry" for short), a sturdy young fellow with a brush-cut of black hair, abides by the family tradition in being able to name all the cows in the herd without hesitating.

Mr. Robert Ness willingly gives of his time and energy to public affairs. He has served as president of the school board for two years and is also a 4-H club leader and president of the Ayrshire breeders' club. This outstanding farmer may one day add a third gold medal to the family escutcheon.

who were appearing in Montreal. On every such occasion their behavior was exemplary and the majority were farm children.

Small farm owners are being driven off their land due to economic reasons beyond their control. The greatest loss to this country will be the disciplined, well-adjusted, resourceful children raised on a multitude of small farms.

F. Crawford."

This letter contains a truth that was expressed about two hundred years ago by Oliver Goldsmith in his poem "The Deserted Village:"

"Ill fares the land, to hast'ning ills a [prey,
Where wealth accumulates, and men [decay:
Princes and lords may flourish, or may [fade;
A breath can make them, as a breath [has made;
But a bold peasantry, their country's [pride,
When once destroy'd, can never be [supplied."

100 ABATTOIRS CLOSE DOWN

More than 100 slaughterhouse owners in Quebec decided to cease operations in 1965.

Dr. Ferdinand Trudel, in charge of the health of animals service of the Quebec Department of Agriculture and Colonization, said the owners ceased operations because they were unable to conform to the requirements of the service.

One of the consequences of the animal health service was the existence of projects exceeding \$4,000,000 in total cost for renovation, transformation or construction of slaughterhouses more in line with the norms set out by the department.

This page supplied in the interests of the Family Farm by the Quebec Department of Agriculture and Colonization.



THE BETTER IMPULSE . . .

News and Views of the Women's Institute of Quebec

PAST PROVINCIAL PRESIDENT HONORED

Members from the four branches of the Missisquoi County Women's Institute — Cowansville, Dunham, Fordyce and Stanbridge East — gathered at the hospitable home of Mrs. Neil Crelle on January 10th to do honor to Mrs. Anne Harvey, who is leaving this locality to live in Portland, Maine.

Mrs. Earle Dryden, President of the Missisquoi County W.I., presented Mrs. Harvey with a beautiful handbag and expressed the regret of all at her approaching departure from our midst. Mrs. Harvey, in thanking the members for the gift, expressed the pleasure and interest she had always taken in the work of the Women's Institute.

Mrs. Harvey has been a member of this organization for the past 45 years, and has always taken a prominent part in its activities, local, county and provincial. On the Provincial Board, she has been Convenor of Welfare and Health, Treasurer and Vice-president; and then held the office of Provincial President of the Quebec Women's Institutes from 1956 to 1960. In 1957 she attended the Triennial Conference of the A.C.W.W. in Ceylon and from there visited other countries in the Far East. She has also travelled in several European countries, where she visited Institutes and studied their methods.

Throughout the afternoon, the guests enjoyed talking with Mrs. Harvey, and listening to her reminiscences about her work, experiences and travel. Delicious refreshments were served by the ladies of the Stanbridge East branch, and after a very pleasant afternoon the guests departed, wishing the best of good fortune and good health to the guest of honor.

W. I. CENTENNIAL PROJECTS UNDERWAY

PROVINCIAL : QWI Mosaic, the story of Quebec Handicrafts, written by Mrs. A. Coates has been completed. Arrangements for its printing are being made and the book will soon be available for purchase.

:Beautification Contest of the Provincial Government. Some Branches had

agronomes as guest speakers to outline the contest; some members made application and are participating in this contest.

:Provincial Secretary, Miss Norma Holmes, used a get-well gift from the Provincial Board to purchase and plant a flowering crab: she calls it her "Board Tree."

COUNTY : ARGENTEUIL has organized a Rural Mailbox Name Campaign; and are improving their own private grounds.

CHATEAUGUAY - HUNTINGDON branches have representatives on Chateauguay Regional, and Huntingdon Regional Committees working on "Lodexpo" — assisting in survey of communities to find what accommodations might be available to tourists, in homes, or camp grounds.

MISSISQUOI: each of the four branches is seeing to the placement of historical markers in their respective communities; are working with the Historical Society doing research and writing about early families.

ROUYN-NORANDA: are working first on beautifying their own homes and grounds.

BRANCH : ABERCORN are painting the exterior of their Hall, improving grounds, have planted trees and shrubs.

ARUNDEL had speaker on Expo; are on Expo Mailing list and receive notice of developments.

AYLMER EAST have ordered flowering trees to be planted, one at each of the five churches in Aylmer.

DALESVILLE - LOUISA have planted flowering crabs in two local cemeteries.

HARWOOD will place a picnic bench or table, or other needed items, when plans for the new Dorion Park are completed.

HEMMINGFORD showed the film, "The Hundredth Summer", with invitations to Councils and all village organizations: this resulted in the formation of a community centenary committee who will plan special events for 1967.

HOWICK: fixing triangles. See Macdonald Journal, Sept. '65.

NORTH HATLEY called a meeting



Seated: Mrs. E. Dryden, left, and in the center the guest of honor Mrs. G. D. Harvey.

on Make Canada Lovelier, with invitations to Council, Village Improvement Council, and Chamber of Commerce: this resulted in community campaign to add a Children's Room to the Village Library.

SOUTH BOLTON are painting the exterior of their hall; shrubs and cedars already planted to improve the grounds.

STANSTEAD NORTH: some years ago were given the "old schoolhouse"; they have repaired, restored it, planted



Ladies attending W. I. 20th Anniversary. Seated, center, is Mrs. Jack Patterson.

shrubs on grounds; placed picnic tables. Plans became more ambitious, and a financial campaign organized to provide funds to establish it as a small museum, open to the public; pictures of Members of Parliament since 1867 hang on the walls; there is a quilt with old family names.

SUTTON: will place an Historical plaque, received from the Historic Sites Committee of Quebec. They are working in conjunction with the Eastern Townships Historical Committee and Brome County Historical Society. The bi-lingual plaque will give a brief sketch of the founding of the village; flowers around the site may be arranged for by the branch.

VALCARTIER: in order to promote interest in the English Culture of the Province of Quebec, is working at the formation of a group of young English-Canadian dancers and folk singers.

These are projects already started.
WHAT ARE YOU DOING?

Mrs. H. E. Palmer
Q.W.I. Conv. of Publicity

ASSISTANCE

(continued from page 8)

Advisers

Canada also provides technical advisers in virtually every field of economic and social development. At present, there are some 115 Canadian advisers overseas in such fields as taxation, wheat breeding, plant pathology, soil and geological surveying, farm forums, forest inventory, fisheries development, community development, transportation, economics, metallurgical research, neurology, pathology, orthopaedics, nurse training, management training and machine accounting.

Because of the rapidly increasing domestic demand for a relatively small number of well-trained personnel in various fields, some difficulties have been encountered in locating Canadians who are well qualified and willing to undertake assignments abroad. There are, however, a number of fields in which Canadian capabilities are particularly well suited to meeting requests from developing countries, such as natural resources development, water transport, co-operatives and community development, statistics, and technical education.

Many of those who have served overseas have found their assignments one of the most rewarding parts of their career and have felt that they returned to Canada with deeper insights and broader horizons. As a result, Canada derives important benefits from its participation in technical and educational-assistance programmes.

(From Material supplied by: The Information Division, Department of External Affairs)

CROP

(continued from page 5)

Vernal — A fine-stemmed and very hardy variety. Resistant to bacterial wilt and especially recommended for regions where this disease is likely to be present and detrimental to the stand. Later than Alfa and DuPuits by approximately one week.

Alfa — A variety developed from the Flemish type. It is a very vigorous variety which grows rapidly in the spring and recovers quickly after cutting. Less hardy than Narragansett, Rhizoma and Vernal, and susceptible to bacterial wilt. Recommended for short-term rotations. Because of its earliness, Alfa should be cut earlier than other varieties. Earlier than Narragansett, Rhizoma and Vernal, by approximately one week.

DuPuits — Variety similar to Alfa.

Narragansett — Very hardy but susceptible to bacterial wilt. Similar to Vernal in maturity.

Rhizoma — A very hardy variety particularly well adapted to the regions of Abitibi-Temiscamingue, Lake St-John and Gaspe. Susceptible to bacterial wilt. Similar to Vernal in maturity.

Birdsfoot Trefoil :

Empire — A very hardy variety. Later than Viking by approximately ten days. Prostrate growth in pasture fields and more erect growth in hay-fields. More tolerant to flooding and ill-drainage than Viking. Recommended for long-term pastures or long-term hay fields.

Leo — Better winter survival than Empire. Intermediate in time of flowering and growth habit. Leo exhibits early fall dormancy and a tendency to produce the bulk of its seasonal growth in time for making first cut hay. Recommended for long-term hay and for pasture to be grazed mainly in mid-summer. (No seed available for 1966.)

Viking — This variety is earlier, less hardy and more vigorous than Empire. Erect growth. Starts growth more quickly in the spring and produces more aftermath than Empire. Recommended for long-term hay fields or long-term pastures.

Red Clover :

Dollard — A double-cut variety, a few days later in maturity than Lasalle. Hardy, resistant to Northern Anthracnose and moderately resistant to Sclerotinia disease.

Lakeland — A double-cut variety, hardy, resistant to Powdery Mildew and Northern Anthracnose. Same maturity as Lasalle.

Lasalle — A double-cut variety, 4 to 6 days later than common red clover. It is more likely to live through two winters than common, and it carries some resistance to Northern Anthracnose and Sclerotinia disease.

Ottawa — A double-cut variety, hardy, it carries some resistance to Northern Anthracnose and Sclerotinia disease. Earlier than Lasalle, better aftermath.

Ladino Clover:

Merit — A variety of giant white clover, more leafy, more productive and more persistent than ladino clover commonly grown.

Certified ladino — A variety of giant white clover which has shown up well so far.

Timothy:

Climax — a hardy and leafy variety which gives a good aftermath. Blooms later than common timothy.

Drummond — A leafy and hardy variety. Later in maturity than Climax by approximately one week. Particularly useful for late haymaking.

Bromegrass:

Fischer — A more vigorous and a higher-yielding variety than common brome. Moderately resistant to leaf spot.

Saratoga — An early variety with high seedling vigour. More vigorous than Fischer. Moderately resistant to leaf spot.

Achenback — Similar to Fischer.

Orchard Grass:

Hercules —
Frode —
Rideau —

Grain Varieties:

Oats — Early Maturing:

Glen — Developed at Macdonald College. Large kernels and medium percentage of hull. Considerable resistance to stem rust and some resistance to crown (leaf) rust. Susceptible to smut.

Shefford — Developed at Macdonald College. Large kernels and low percentage of hull. Some resistance to crown (leaf) rust but susceptible to stem rust and loose smut. Resistant to lodging. Subject to shattering.

Medium Early Maturing:

Garry — Developed at the Research Station, Winnipeg. Moderately high percentage of hull. Resistant to stem rust, crown (leaf) rust and smut.

Medium Late Maturing:

Dorval — Developed by Quebec Project group. Straw medium strong. Medium size grain with low hull content. Susceptible to rusts; resistant to covered smut. High yield when sown early.

Late Maturing:

Roxton — Developed at Macdonald College. Straw is long and medium

(continued on page 21)

The Month With The W. I.

ABITIBI EAST: MATAGAMI: Mr. Proulx, Chairman of the Hospital Board spoke on proposed 28-bed hospital Isle Dieu, followed by question and answer period; report on Indian Affairs and how WI can assist; held bake sale.

ARGENTEUIL: ARUNDEL named good citizenship qualities; citizenship convener showed 2 films, "Prejudice" and "Fable for Friendship". BROWNSBURG named type of material, beginning with first letter of members' names; worked on costumes for coming fashion show. DALESVILLE-LOUISA: suggested ways to improve meetings; Drama Committee chosen. FRONTIER named a famous person of recent years; Miss Mildred Douglas gave tape recordings from India; donated prizes to two high schools. JERUSALEM-BETHANY: Dr. H. Giles spoke on Senior Citizen's Home; arranged to quilt the blocks each member brought for Red Cross quilt. LAKEFIELD: named household task I would like my husband to help with; donated to Lachute High School Lampada. PIONEER: held sewing bee at which quilt top was made for Red Cross; once a week this month members will quilt at Red Cross rooms. UPPER LACHUTE EAST END: Reports and clippings from W.I. Minutes dating back to 1926 read with interest; much interest in Branch history and work accomplished in War Years; Name a Song Contest held — similar to one at this branch 30 years ago.

BONAVVENTURE: BLACK CAPE: enjoyed film "Flower Arrangement in the Home"; answered roll with a "cure for the blues"; successful fudge sale with proceeds to support their foster child; articles read "Cents Off — Off What?", Pure Virgin Wool and "How Old Is Old in Education?" CASCAPE-DIA: enjoyed a Membership Banquet; donated to needy person; and to Richmond High Year Book. MATAPELIA: sent gifts to children and to elderly citizens, held a baby shower.

BROME: ABERCORN held paperback novel exchange; discussed means of money-raising; donated to Flambeau Home; sent gift to former Abercorn resident, now a patient in Ste Anne's Veterans' Hospital. AUSTIN heard report on Library Story Hour; purchased new books; circulation to Grade 1-3 children now 40-50 books weekly; started making Christmas Stockings.

SOUTH BOLTON: Mrs. H. Millar of Knowlton showed coloured slides of recent trip to Egypt and South Africa; paid 1¢ for each letter in husband's or friend's name. SUTTON: Mrs. J.



Banquet for the visit of the QWI president to Matagami. Mrs. Ossington is third from left.

Cowan gave reading on Winter Birds, and roll call gave ideas on care of winter birds; Mrs. D. Fadden showed slides of Quebec and other provinces and of the United States.

CHATEAUGUAY - HUNTINGDON: AUBREY-RIVERFIELD: Mrs. E. Orr read paper on revolution in teaching Math and Science, with emphasis on discovery learning, rather than memorization; discussion on child behaviour led by Mrs. M. McKell followed; donated cookies to Preston Home, Valentines to Children's Home, Lachine; Mystery Box won by Mrs. Orr. DEWITTIVILLE: heard Mr. R. Greenbank, Vice Principal of Huntingdon High School speak on Changes in Education with the Building of Regional Schools; Donated cooking utensils to School for Retarded Children, Huntingdon; held 4th Annual Winter Carnival at their rink, with hockey for girls and boys, costume skating, skate races and Broomball. DUNDEE: read paper on "Plastic Parts for the Body"; demonstrated making of hot dish mat made from tile; donated to Dundee School for hot lunches. FRANKLIN: started cooking classes for Grade 7 students; held successful card party; provided kitchen utensils for school kitchen. HEMMINGFORD held Centennial Planning meeting.

HOWICK: most amusing

Scottish play given by several members; held bulb contest, with bulbs planted last fall being brought to the meeting. HUNTINGDON: Mrs. G. Moore spoke on the Leadership Course which she attended; held homemade Valentine contest; Valentines sent to shut-ins.

COMPTON: CANTERBURY: received several donations which were sold to augment funds. COOKSHIRE: Mrs. M. Watson, R.N. gave talk on Care of the Teeth, illustrated by slides on care of teeth and the bad effects of cigarette smoking, shown by Mr. LaFrance of Provincial Dept. of Health; cotton brought for Cancer dressings. EAST ANGUS named a book or article recently read; members made visits to Rosemary and St. Paul's Rest Homes in Bury and Wales Home in Richmond; paper drive held with proceeds to buy cocoa for school lunches; Miss D. Shattuck showed slides of England and Northern Europe, including slides of floats made from tulips. EAST CLIFTON: Mr. D. J. MacMillan, County Agronomist, gave talk on Fertilizers, Lime and Milk Houses, also on policy of Dept. of Agriculture; held Chinese auction. SAWYERVILLE: had social evening honoring grandmothers, with those present being given a corsage. Held card party. SCOTSTOWN heard talk on care of teeth by school nurse, Mrs. M. Watson; article from Ontario "Home and Country" magazine read, re goodwill tour to Quebec last summer.

GATINEAU: AYLMER EAST: Mrs. R. Leach, County President was guest speaker; readings on Outline of Publicity, Story of Mary Stewart, Your National Office by Mrs. Taylor. EARDLEY: exchanged homemade Valentines; held cooking sale. RUPERT: bought and installed Fire Extinguishers in their Hall; paper on Dangers to Good Health; sewing and knitting donated to Save the Children; named something mothers or grandmothers did; contest on Education won by Mrs. M. Craig. WRIGHT: Mr. R. Goodick, Principal of Queen Elizabeth School, Kazabazua, talked on publicity; film on Advertising; contest on reversible words won by Mrs. S. Ogilvie and Mrs. G. Derby; roll call was Which TV Advertisement I Think Is the Corniest; Special Birthday Cake enjoyed by all to celebrate their 27th Anniversary.

MEGANTIC: INVERNESS: catered to a banquet; held card party; Sun-

shine baskets sent to sick and shut-ins; gave Valentine Party for Senior Citizens Home in the community. KINNEAR'S MILLS: listed their New Year's Resolutions; sent mixed fruit to Kinnear's Mills Home for Senior Citizens.

MISSISQUOI: COWANSVILLE: heard articles on Health; each gave a health rule; contest on People and Things in Pairs. DUNHAM each showed articles made from one yard of cloth; donated to Cowansville High School towards hot lunches for needy children, and to Save the Children Fund. FORDYCE: quilted two quilts; held contest using jumbled words of articles found in medicine cabinet. STANBRIDGE EAST: heard talks on FWIC and ACWW; dressed a doll for local museum; judged aprons made by members and gave prize; articles brought for Cancer Society; contest on

names of newspapers and magazines, and another on names of flowers.

MONTCALM: RAWDON: brought articles made from yard of material, among which was small hand-hooked rug very tastefully worked by Mrs. C. Simpson; donated \$50 to Rawdon Consolidated School toward purchase of Visual Aids which are needed; heard President's good report on Semi-Annual.

PAPINEAU: LOCHABER: members brought cookies to sell; named maternal grandmother's maiden name; contest on fractured phrases with prize of pillow slips; donated to Lion's Club to help in their local welfare work; one member gave blood at clinic; one member brought hospital jackets made from men's shirts, and cotton for Cancer Society; one member now visiting in Guatemala.

PONTIAC: CLARENDON: Mr. Menzie of Shawville High School Staff provided interesting program of beautiful slides of Scotland, and of rural Canada; served lunch at Annual Meeting of Pontiac Agricultural Society; donated pillow slips to Community Hospital. FORT COULONGE were shown moving pictures taken last year in Copenhagen, Sweden and Spain; roll call gave recipe for hot supper dish. QUYON: Mrs. McMillan spoke on Cystic Fibrosis and daily care needed for child afflicted with this hereditary disease; donated to Cystic Fibrosis Ass'n, and to Ottawa Journal Dried Milk Fund. WYMAN' also donated to this fund; paper on How Much Health in Health Foods; gave ways to "postpone old age"; two contests held.

QUEBEC: VALCARTIER: held medical quiz on medical terms; help given to School for Retarded Children; started making Christmas Stockings.

RICHMOND: CLEVELAND: contest on ailments of the body; social afternoon with members' children as guests and Bingo played. DENISON MILLS: brought knitted articles to be given to Save the Children; collected old nylons to send to Korea; sold Valentine cake with proceeds to Polio Fund; held card party. GORE: each member brought one of their mother's or grandmother's dishes and told something about it; contest on making Valentines, one on jumbled sayings; cards and a plant sent to the sick. MELBOURNE RIDGE: distributed pamphlets on Citizenship; article on Adelaide Hoodless; contest on Canadian history; donated to Save the Children; recited Valentine verses for roll call. RICHMOND HILL: held rummage sale and sold bathroom set, proceeds to Cancer Society; birthday gifts to two children at Dixville Home. RICHMOND YOUNG WOMEN held successful food sale; held

contest won by Mrs. E. Stimson. SHIPTON: Mrs. Broscomb showed beautiful slides of her recent trip to England, also pictures of her mother, Mrs. Walker, who was former member of this branch; started school fair plans; Mrs. A. Paige read paper on facts about the heart; donated to March of Dimes; held card party with prizes donated by merchants of Danville and Asbestos. SPOONER POND: held food sale; pamphlets on cancer facts distributed; sunshine box and get-well card sent to member.

ROUVILLE: ABBOTSFORD: visited the Bow Plastic Manufacturing Company in Granby; showing of slides taken in Abbotsford area of all phases of growing and harvesting of apples, with slides contributed by members; viewed FWIC slides of Quebec; contest to estimate amount of money in Pennies for Friendship Box, won by Mrs. R. Thomson.

ROUYN - NORANDA: FARMBOROUGH: were guests of Noranda Branch at their Christmas Party; will work with Noranda on dressing doll and selling tickets on it. NORANDA: enjoyed Christmas party, sent food voucher to needy family rather than a basket of food; used Christmas cards collected and sent to missions; surprise Pot Luck Supper held at home of president Mrs. T. Yandon, a farewell party to her as she leaves to reside in Rossport, Ont.; Mrs. W. Wiltsey presented her with brooch-and-earring set from the branch; successful sewing course held under Mrs. Wells' capable direction with a coffee party held at its close and a gift given to Mrs. Wells; guest speaker Mrs. C. Stafford spoke on Structures and Levels of the Quebec Educational System, a follow-up on her previous outline of Bill 60; she urged members to voice their opinions and to participate in the new school system locally and at Quebec; ROUYN: held successful sewing course with Mrs. Wells; at close of course refreshments were served and a gift presented.

SHEFFORD: GRANBY HILL: agriculture convener read interesting reports, also noted that milk prices had risen; article read by Citizenship convener; local Regional School reportedly will have indoor swimming pool; 2 quilts made; gift to member who lost home by fire; box sent to forgotten patient at Verdun; word-forming contest held. GRANBY WEST: Mrs. Ossington, guest, spoke on Expo '67; gifts to needy children at Granby, H. S.; contests on Citizenship and on Education; gift to member of neighbour branch after loss of home by fire. WATERLOO-WARDEN: held sewing class with Mrs. Wells with very satisfactory results; gifts sent to elderly and shut-ins;



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interesting paper read on what batteries to buy and why, for flashlight and transistor.

SHERBROOKE: ASCOT: heard article on Mrs. I. Gandhi, newly elected Prime Minister of India. BELVEDERE: held quiz on Current Events; donated to 4H club; BROMPTON ROAD: held contest on hats made from bathroom accessories.

LENOXVILLE: articles read on export markets for Canadian Softwood Lumber, and on 4H members visit to Governor-General; Christmas Stocking contest held with stockings to be used later for Christmas from Canada Project.

STANSTEAD: AYERS CLIFF: held buzz session on program hints; canvassed for the Blind. BEEBE: shown a scientific film; held card party with proceeds and a gift from each member sent to Dixville Home; will participate in making Fair articles.

HATLEY CENTRE: received Mrs. R. Knight, County President as guest; quiz concerning W. I. entertained the ladies; donated to Frank Woodward Fund; held a bring-and-buy sale; collected for Cancer Society; have a travelling food basket. NORTH HATLEY: entertained French-speaking ladies. STANSTEAD NORTH held two quizzes; named an old-fashioned remedy; welcomed back member from work tour; gave prizes at Sunnyside School; held mystery parcel auction. TOMIFOBIA: Mrs. T. Keene, Education Convener, read of the resurrection of Ste-Marie-aux-Hurons, one of Ontario's oldest farms; roll call answered by naming prominent person and his contribution to education; members made a quilt, donated it to Dixville Home; held cookie sale; congratulations and the gift of a high chair to Mrs. L. Marotte publicity convener, on birth of a daughter.

VAUDREUIL: HARWOOD: Mrs. Prinn read article entitled Blitz on Health, which claimed that, from birth to 25 years of age, mortality rate is low because adults see that their children have every possible advantage that medicine has to offer, but that an adult is apt to neglect his health; if adults would give as much care and attention to themselves, mortality rate would lessen and longevity increase.

CROP

(continued from page 18)

strong. Large kernels and low percentage of hull. Some resistance to stem and crown (leaf) rust but susceptible to smut. Useful for pasture and ensilage.

Barley:

Champlain — Developed at Macdonald College. Fairly strong straw. Semi-resistant to loose smut. Feed type. High yielding.

Nord — An early maturing variety developed at the Experimental Farm, Kapuskasing. Recommended for North-Western Quebec. Not suitable for malting. Awns are smooth.

Parkland — Developed at the Experimental Farm, Brandon. Fairly strong straw. Suitable for malting as well as feed. Awns are smooth.

Sudan Sorghum Hybrids:

Annual. Suggested on a trial basis only for August-September green-chop or pasture. Not sufficiently tested under Quebec conditions for recommen-

dation. Does not equal corn for ensilage.

Dr. John Bubar gives the following essentials in culture: do not seed until soil temperature reaches 65°F; fertilize as for corn; graze at 30 inches height or green chop at beginning and end of August leave a six inch stubble.

The following varieties performed satisfactorily under 1965 conditions:

Dekalb SX-11
Greenlan
Lindsey 77 — F
RP Morsu

Green Cross registers new herbicide Kil-Mor Banvel 3

After extensive testing, Green Cross Products has announced the registration of a new post-emergence herbicide known as KIL-MOR BANVEL 3, for the control of broadleaf weeds in field and sweet corn. KIL-MOR BANVEL 3 is said to give excellent control of such "tough" weeds as Field Bindweed, Wild Buckwheat, Sow Thistle, Canada Thistle (top growth) and Smartweeds, as well as weeds commonly controlled by 2,4-D.

In prolonged tests at Experimental Stations in Ontario, According to a recent press release, KIL-MOR BANVEL 3 produced uniformly good results. In addition, the report claimed, more than 20 farmer field trials, conducted in Kent and Essex counties in 1965, proved that KIL-MOR BANVEL 3 consistently controlled hard-to-kill weeds not controlled by 2,4-D and other herbicides.

CENTRIFUGAL FORCE HELPS TO ROOT CUTTINGS — Rooting of woody cuttings (including many species of willow and poplar) is improved by using centrifugal force. This recent finding at Morden, Man., may be of much help in the nursery industry, and could also lead to the discovery of important data concerning the compounds in plants which promote rooting.

During trials, centrifugal force acting from the tip to the base, was applied to willow cuttings. As the force increased, so did the number of roots produced by the cuttings. After one hour of centrifugation at 0, 1,000, 2,000 and 4,000 revolutions per minute, the number of roots was 2.0, 4.4, 7.1 and 12.3 respectively.

Apparently at least two substances promote rooting in willows and other relatively easy-rooting species. One is known to be a plant hormone, but as yet the other cannot be identified. It has been shown that this second substance is forced to the base of the cutting by centrifuging.

It has also been shown that it is not present in some species more difficult

to root than willow or poplar. Attempts to isolate it are underway at this station so it can be used to help rooting of difficult species.

— Makato Kawase, Morden, Manitoba

(From "Research for Farmers", Winter 1966)

GRADING PEAS BY THEIR BOUNCE

The texture of cooked peas is an important aspect from the point of view of their processing. It can be assessed by tasting panels, and more conveniently by maturometers and other instruments. Instruments, however, measure only average textures of batches of 140 or more peas, and a means of rapidly determining the texture of individual peas was sought. The rebound of individual peas from a glass plate — which depends on elasticity, with which the texture is related — has been found to give a useful indication (*Journal of the Science of Food and Agriculture*, Vol. 16, p. 469).

In a technique developed by D.E.C. Crean and D. R. Haisman, of the Fruit and Vegetable Canning and Quick Freezing Research Association, Chipping Camden, Gloucestershire, the peas are emptied on to a slowly moving belt, on which they are arranged in a single file by gates. On reaching the end of the belt they drop some 42 in onto an angled glass plate, from which they are deflected into a compartmented box. The greater the elasticity of a pea, the further it will bounce; and each batch is thus separated into groups of gradually increasing elasticity. The proportion and numbers of peas of various textures are thereby directly seen and determined.

Irregularity in the shape of peas can affect the rebound, but not sufficiently to invalidate the results. Determinations by this method have satisfactorily correlated with the findings from tasting tests, in which peas spooned out at random were chewed and their "feel" against the spoon assessed.

THE COLLEGE PAGE



Obituary



Professor E. A. Banting

We record, with regret, the death of Professor E. Angus Banting, Chairman of the Department of Agricultural Engineering from September 1, 1951 to 1963. He died on March 9th at the age of 57 years.

A native of Alliston, Ontario, Professor Banting received his Bachelor of Science in Agriculture degree from the University of Toronto in 1933 and his Ontario College of Education diploma in 1934. After teaching High School at Beamsville, Ontario, for three years, he was invited to initiate the Agricultural Engineering Division of the Nova Scotia Department of Agriculture. In the period 1937 — 1951, he contributed steadily to the development of more efficient agriculture by introducing tile drainage and other agricultural engineering services, and by effective teaching at the Nova Scotia Agricultural College at Truro.

In 1951, he was appointed Professor and Chairman of the Agricultural Engineering Department at Macdonald College. In 1960, he was appointed Director of the Diploma Course. Following a stroke suffered in July 1963, Professor Banting resigned the posts of Chairman of the Department of Agricultural Engineering and Director of the Diploma Course.

J. E. Shuh, Vice-Principal N.S.A.C.

J. E. Shuh, formerly director of Agronomy and Soils with the Nova Scotia Department of Agriculture, has been appointed vice-principal of the Nova Scotia Agricultural College.

Mr. Shuh, a native of Waterloo County in Ontario, graduated with high honours from the Ontario Agricultural College and went on to earn his Master's degree in Agronomy at Macdonald College in 1942.

After wartime service with the R.C.A.F., Mr. Shuh served as an agricultural representative in Ontario for one year, and then joined the staff of the Nova Scotia Agricultural College.

Dean Hall Honoured



Professor C. Wayne Hall, Dean of the Faculty of Education, Macdonald College of McGill University has been admitted as a Fellow of the Canadian College of Teachers.

This award, highest bestowed by the College, was made in recognition of his outstanding contribution to education in Canada.

Donald Ross heads Atlantic ARDA



Donald Ross has been appointed chief of ARDA Rural Development Services, Atlantic region. Native of Halifax, N.S., Mr. Ross is a graduate of Macdonald College.

As regional chief of rural development services, Mr. Ross will maintain close liaison with provincial and local ARDA authorities in implementing the Federal-Provincial Rural Development Agreement. Headquarters for Federal ARDA Atlantic region, comprising the provinces of Newfoundland, Prince Edward Island, Nova Scotia and New Brunswick, is Amherst, N.S.

Library Staff Appointment

Miss Jocelyn Bruce, a graduate of the McGill Library School, recently joined the Macdonald Library Staff as cataloguer.

During World War II, as a Wren officer in the Royal Canadian Navy she directed one of the units of the Naval Library Service.

Stuart R. McDonald tops diploma class



At the graduation ceremonies March 25, Stuart McDonald was awarded the Minister of Agriculture and Colonization medal for ranking highest in his year. Stuart also won the Minister's bronze medal for Animal Science, while the Agronomy Award went to Malcolm C. MacDonald. The Minister's prize for greatest progress was won by Jean Maurice Toupin.

Diploma Grads offered \$125,000

There was no lack of job opportunities for this year's graduating class. Peter Henderson, N.E.S. Student Placement officer, reports that the ten students who registered for interviews received twenty-five job offers, averaging \$5,500. Top offer was \$7,000, plus car, expenses and bonus. (It was turned down!)

Six graduates, including the two girls in the class, are staying with the College to operate the new Dairy Herd Analysis Service. One is going to John Deere Company as Sales and Service Representative, one to Moose Jaw as Cattle Buyer for Canada Packers, one to a large Charolais ranch in British Columbia.

The other twelve members of the class, Mr. Henderson reports, were already committed. Several have returned to their own farms, including one student from Colombia, in South America,

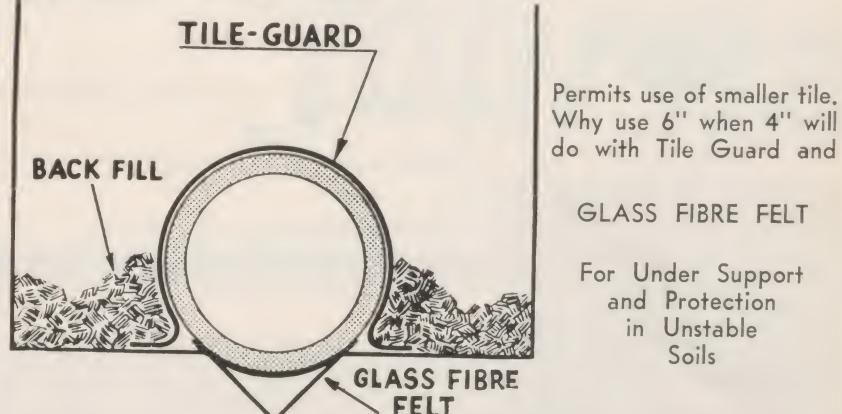
Arboretum goes back to Wooden Sap Buckets

Visitors to the Morgan Arboretum during this year's maple syrup season were surprised to find wooden sap buckets on the first trees inside the gates. But further along the trail, they found all types of equipment, ancient and modern, tin pails, plastic bags, spiles and spouts of many sorts.

It is all part of a demonstrational project complete with sugar house to conveniently show the public the history and development of syrup making.

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